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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/005,433

11/02/2001

Robert McNamara

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08/24/2005

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EXAMINER

LI, SHI K

ART UNIT

PAPER NUMBER

2633

DATE MAILED: 08/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/005,433

Applicant(s)

MCNAMARA ET AL.

Examiner

Shi K. Li

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 02 November 2001 and 20 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8, 11-22 and 25-30 is/are rejected.
- 7) ☒ Claim(s) 9, 10, 23, 24 and 31 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Objections*

1. Claim 13 is objected to because of the following informalities: "a an" in line 1 of the claim should be "an". Appropriate correction is required.

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-8, 11-22 and 25-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Makam et al. (U.S. Patent Application Pub. 2001/0033570) in view of Lang et al. (Lang et al., "Link Management Protocol (LMP)", IETF Draft, draft-ietf-mpsls-lmp-0.2.txt, March 2001) and OIF-UNI-01.0 ("User Network Interface (UNI) 1.0 Signaling Specification", OIF October 1, 2001, pp. 32-34).

Regarding claims 1 and 15, Makam et al. discloses in FIG. 1 a SONET communication system. Makam et al. teaches in paragraphs [0069] and [0070] that it is desirable to use automatic neighbor discovery in such an optical transport network. Makam et al. suggests in paragraph [0083] to use Line or Section Overhead bytes of SONET frame for neighbor discovery. The difference between Makam et al. and the claimed invention is that Makam et al. does not teach details of the neighbor discovery protocol. Lang et al. teaches Link Management Protocol (LMP). Lang et al. teaches in page 19, Section 8.1.1 to send Config message for neighbor discovery and a neighbor returns ConfigAck message to acknowledge a received

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Config message. One of ordinary skill in the art would have been motivated to combine the teaching of Lang et al. with the communication system of Makam et al. because LMP is widely accepted and using LMP ensures compatibility with other nodes in a network. Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to use LMP for neighbor discovery, as taught by Lang et al., in the communication system of Makam et al. because LMP is widely accepted and using LMP ensures compatibility with other nodes in a network.

Makam et al. suggests using Line Overhead bytes of SONET frame for neighbor discovery. As shown on FIG. 8-1 of OIF-UNI-01.0, Line Overhead represents a hierarchy level. That is, the STE equipment of a SONET network does not respond to Line Overhead message and forward Line Overhead to downstream LTE equipment. That is, the combination of Makam et al. and Lang et al. inherently include a requested hierarchy level in the neighbor discovery message by using Line Overhead for carrying LMP messages.

Regarding claims 2 and 16, OIF-UNI-01.0 teaches in FIG. 8-1 that a STE equipment forwards neighbor discovery message carried by Line Overhead.

Regarding claims 3 and 17, a STE equipment understands that there is a LTE equipment downstream.

Regarding claims 4 and 18, Lang et al. teaches in p. 36, Section 9.4.1 that a Config message includes a node-ID field.

Regarding claims 5 and 19, Lang et al. teaches in p. 30, Section 9.1 that each message contains a common header. The common header includes a local control channel ID which corresponds to the port ID of instant claim.

Regarding claims 6 and 20, the responding neighbor discovery message is carrying by the Line Overhead which indicates a hierarchy level.

Regarding claims 7 and 21, Lang et al. teaches in p. 38, Section 9.4.2 that the ConfigAck message includes a Node-ID field.

Regarding claims 8 and 22, Lang et al. teaches in p. 30, Section 9.1 that each message contains a common header. The common header includes a local control channel ID which corresponds to the port ID of instant claim.

Regarding claims 11 and 25, Lang et al. teaches in page 8, second paragraph that a timeout condition may occur following a Config message.

Regarding claims 12-13 and 26-27, OIF-UNI-01.0 teaches in FIG. 8-1 that a node may have one or more path neighbors, line neighbors and section neighbors. For example a PTE has a LTE as a line neighbor and another PTE as a path neighbor. Therefore, a PTE sends two Config message with different hierarchy levels. On the other hand, two nodes may exchange many Config messages, one for each port.

Regarding claims 14 and 28, OIF-UNI-01.0 teaches in FIG. 8-1 that PTE is a client equipment.

4. Claims 29-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Makam et al., Lang et al. and OIF-UNI-01.0 as applied to claims 1-8, 11-22 and 25-28 above, and further in view of Freeman ("Telecommunication System Engineering" by R. Freeman, John Wiley & Sons, 1980, pp. 99-103).

Makam et al., Lang et al. and OIF-UNI-01.0 have been discussed above in regard to claims 1-8, 11-22 and 25-28. The difference between Makam et al., Lang et al. and OIF-UNI-

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01.0 and the claimed invention is that Makam et al., Lang et al. and OIF-UNI-01.0 do not teach a storage medium for storing a program corresponding to LMP. Freeman teaches in Section 12 stored-program control (SPC). Freeman teaches in p. 100 to store method steps as program in memory for providing instructions to a controller or computer. One of ordinary skill in the art would have been motivated to combine the teaching of Freeman with the modified neighbor discovery method and system of Makam et al., Lang et al. and OIF-UNI-01.0 because SPC is flexible and expandable such that it is easy to upgrade the system by rewriting the program. Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to store the modified neighbor discovery method of Makam et al., Lang et al. and OIF-UNI-01.0 in a storage medium, as taught by Freeman, because SPC is flexible and expandable such that it is easy to upgrade the system by rewriting the program.

***Allowable Subject Matter***

5. Claims 9-10, 23-24 and 31 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shi K. Li whose telephone number is 571 272-3031. The examiner can normally be reached on Monday-Friday (8:30 a.m. - 5:00 p.m.).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on 571 272-3022. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

skl  
10 August 2005

*M. R. Sedighian*  
**M. R. SEDIGHIAN**  
**PRIMARY EXAMINER**